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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,160	01/02/2002	Tomm V. Aldridge	42390P13048	7789

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EXAMINER

DEBERADINIS, ROBERT L

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,160

Applicant(s)

ALDRIDGE ET AL.

Examiner

Robert DeBeradinis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/18/03, 11/12/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOSS 5,745,041 in view of GUDAT 6,646,851.

Regarding claims 1, 2.

MOSS discloses at least one power supply, the at least one power supply coupled to a power supply fan (figure 3) MOSS also teaches external cooling fans and internal power supply cooling fans and fan malfunctions cause overheating which cause PC failure MOSS also discloses redundant power supplies (column 1, lines 37-52).

MOSS does not disclose a first power source terminal coupled to the at least one power supply, a second power source terminal coupled to the at least one power supply, wherein the power supply fan is powered from a source external to the at least one power supply.

The Examiner takes official notice. The use of external power sources to supply backup power to a load and the use of terminals to inter-connect a load to a power source is well known to one having ordinary skill in the art. A power supply having multiple power outputs to feed different voltages to different parts of a system is also well known in the art.

GUDAT discloses an apparatus comprising at least one power supply (4), the at least one power supply coupled to a fan, a second power source coupled to the fan wherein the fan is powered from the second source (16) to supply a redundant source of power to the fan motor in the event the main power source fails.

It would have been obvious to one having ordinary skill in the art at the time of this invention to modify the teachings of MOSS to include a second power source terminal coupled to the at least one power supply, wherein the power supply fan is powered from a source external to the at least one power supply. The motivation would be to supply backup power to the cooling fan to prevent a total failure of a power supply having multiple power outputs when the power output powering the cooling fan fails.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over MOSS 5,745,041 in view of GUDAT 6,646,851 in further view of FUNG US2002/0004913.

Regarding claim 5.

MOSS in view of GUDAT discloses the apparatus of claim 1.

MOSS in view of GUDAT does not disclose a server.

FUNG discloses power supplies and modular fans to provide high reliability in server environment (abstract).

It would have been obvious to one having ordinary skill in the art at the time of this invention to modify the apparatus of claim 6 to provide power and cooling to the server. The motivation would have been to provide a highly reliable cooling fan to maintain temperatures with the design limits of the electronic components in the server.

Claims 3, 4, 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOSS 5,745,041 in view of GUDAT 6,646,851 in further view of GIORGIO 5,963,887.

Regarding claims 3, 6.

MOSS in view of GUDAT discloses the apparatus of claim 1.

MOSS in view of GUDAT does not teach a fan speed controller coupled internally to the at least one power supply.

GIORGIO teaches a fan speed controller (abstract).

It would have been obvious to one having ordinary skill in the art at the time of this invention to modify the apparatus of claim 1 to include a fan speed controller. The motivation would be to change the fan speed with changing load demands on the power supply to maintain a minimum fan speed necessary to sustain appropriate cooling levels to minimize the generation of noise due to the airflow.

Regarding claims 4, 7, 8.

MOSS in view of GUDAT in further view of GIORIO discloses the apparatus of claim 3.

MOSS in view of GUDAT in further view of GIORIO does not teach wherein the fan speed controller provides a voltage to the power supply fan upon the at least one power supply failing.

GUDAT teaches wherein the controller (10) provides a voltage to the fan upon the at least one power supply failing.

It would have been obvious to one having ordinary skill in the art at the time of this invention to connect (18, speed control power input) to a source selection means. The motivation would be to provide redundant power to the cooling fan upon the at least one power supply failing.

Regarding claims 9, 10, 11.

MOSS in view of GUDAT in further view of GIORIO discloses the apparatus of claim 6.

MOSS in view of GUDAT in further view of GIORIO does not teach a second fan speed controller coupled to the fan speed controller terminal.

The second fan speed controller is merely a duplication of parts.

GUDAT teaches redundant power source used in the event a first source fails.

It would have been obvious to one having ordinary skill in the art at the time of this invention to modify the apparatus of claim 6 to include a second fan speed controller coupled to the fan speed controller terminal. The motivation would be to provide a redundant fan speed controller to control the cooling fan in the event the first fan speed controller failed.

Regarding claim 12.

MOSS in view of GUDAT in further view of GIORIO discloses the apparatus of claim 11.

MOSS in view of GUDAT in further view of GIORIO does not disclose wherein the first fan speed controller and the second fan speed controller provide a voltage to the supply fan simultaneously.

The Examiner takes official notice. It is well known in the art that power sources, for example, batteries simultaneously supply power to a load when they are connected in parallel, to supply a load that requires more power than a single battery can supply.

It would have been obvious to one having ordinary skill in the art at the time of this invention to modify the apparatus of claim 11 and connect the first fan speed controller and the second fan speed controller in parallel to simultaneously supply power to the power supply fan. The motivation would be to power a power supply fan that requires more power than the first fan speed controller can supply.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over MOSS 5,745,041 in view of GUDAT 6,646,851 in further view of GIORGIO 5,963,887 and FUNG US2002/0004913.

Regarding claim 13.

MOSS in view of GUDAT in further view of GIORIO discloses the apparatus of claim 6.

MOSS in view of GUDAT in further view of GIORIO does not disclose wherein the external source is a server, the at least one power supply providing a portion of the power to the server.

FUNG discloses power supplies and modular fans to provide high reliability in server environment (abstract).

It would have been obvious to one having ordinary skill in the art at the time of this invention to modify the apparatus of claim 6 to provide power and cooling to the

server. The motivation would have been to provide a highly reliable cooling fan to maintain temperatures with the design limits of the electronic components in the server.

Claims 14-20, 21-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOSS 5,745,041 in view of GUDAT 6,646,851 in further view of GIORGIO 5,963,887.

Regarding claims 14-20, 21-29.

MOSS in view of GUDAT in further view of GIORGIO disclose an apparatus comprising at least one power supply, the at least one power supply coupled to a power supply fan, a first fan speed controller, the first fan speed controller powered by the at least one power supply an external fan speed controller and wherein power to operate the power supply fan is switched to an external source upon the at least one power supply failing.

MOSS in view of GUDAT in further view of GIORGIO does not teach the power source terminals arranged to the switch the fan speed controllers and the power supplies to control the supplies to the fan controllers and fans.

The Examiner takes official notice. The arrangement of terminals and switches to switch from one power source to another is well known to one having ordinary skill in the art also to merely duplicate and arrange controllers to provide redundant controllers is also well understood.

It would be obvious to one having ordinary skill in the art at the time of this invention to arrange switches to provide redundant power sources and speed

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controllers to a cooling fan. The motivation to provide redundant power and redundant speed controllers to a cooling fan would be to protect the electronic components in the system in the event the power supply or the fan controller failed.

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (571) 272-2049. The Examiner can normally be reached Monday-Friday from 8:30 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Brian Sircus, can be reached on (571) 272-2058. The Fax phone number for this Group is (703) 872-9306.

RLD

MARCH 2, 2004

A handwritten signature in black ink, appearing to read "Robert L. DeBeradinis". The signature is written in a cursive, flowing style with a large initial "R".